

## Patent Abstracts of Japan

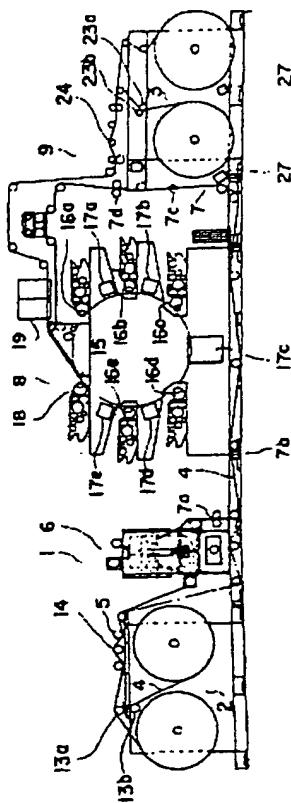
PUBLICATION NUMBER : JP57157785  
 PUBLICATION DATE : 29-09-82  
 APPLICATION NUMBER : JP810044577  
 APPLICATION DATE : 26-03-81

VOL: 6 NO: 263 (M - 181 )  
 AB. DATE : 22-12-1982 PAT: A 57157785  
 PATENTEE : KIYODOU INSATSU KK  
 PATENT DATE: 29-09-1982

INVENTOR : TERADA KATSUAKI; others: 06

INT.CL. : B41M1/30; B41F5/04;  
 B41F17/10; B41F23/00;  
 B41F23/04

TITLE : METHOD AND DEVICE FOR  
 PRINTING ON MULTI-LAYER WEB



ABSTRACT : PURPOSE: To execute a high-quality printing rapidly and safely at low cost, by conducting printing of center drum system and of relief printing method on a multi-layer web containing metallic foil, etc., so that stretch can be prevented by reducing the length of multi-layer web pass short during processing.  
 CONSTITUTION: A multi-layer web 4 which is drawn out from a take-out roll 2 is sent into a line through a tension detecting device 5, and by passing through a corona discharge surface treatment device 6 for the surface treatment, it is provided with the printing aptitude. And then, after getting destaticized by a destaticizing device 7, the multi-layer web 4 is sent into a relief printing machine 8 equipped with a center drum 15. In this machine, the multi-layer web is caught and pressed between plate cylinders 16a-16e and the center drum 15, and the after repeating printing of each color and drying process by an ultraviolet-rays drying devices 17a-17e, alternately, the relief printing process is completed. Varnish is applied onto thus printing surface by a varnish-coating roll 18, and after having been dried by an ultraviolet-rays drying device 19, the web is exposed to radiation of positive electron by a destaticizing device 27 and coiled by a wind up roller 3.

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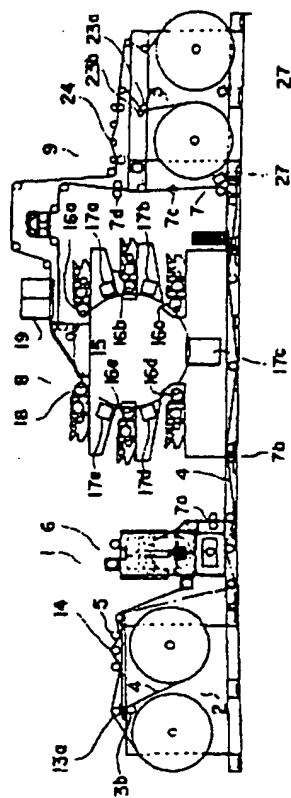
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Translation of Published Claims

Japanese Patent Publication (KOKOKU) No. 89-23318 (1-23318)

published May 1, 1989

Japanese Patent Application Laying Open (KOKAI) No. 82-157785 (57-157785) laid open to the public September 29, 1982

Japanese Patent Application No. 81-44577 (56-44577)

filed March 26, 1981

Priority claimed: None

Applicant: Kyodo Printing Co., Ltd., Tokyo, Japan

Inventors: Katsuaki TERADA et al., Japanese citizens

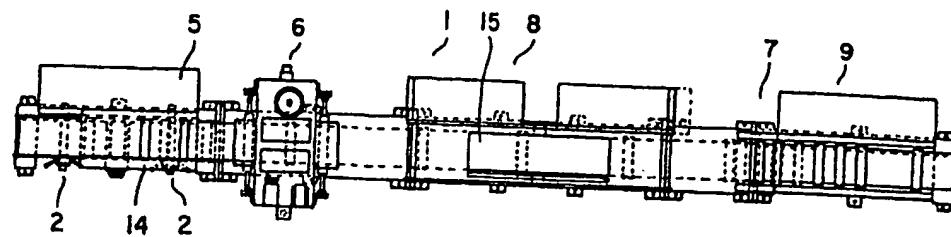
Title of the Invention: A method of printing on a multi-layer web and  
a printing apparatus

Claims:

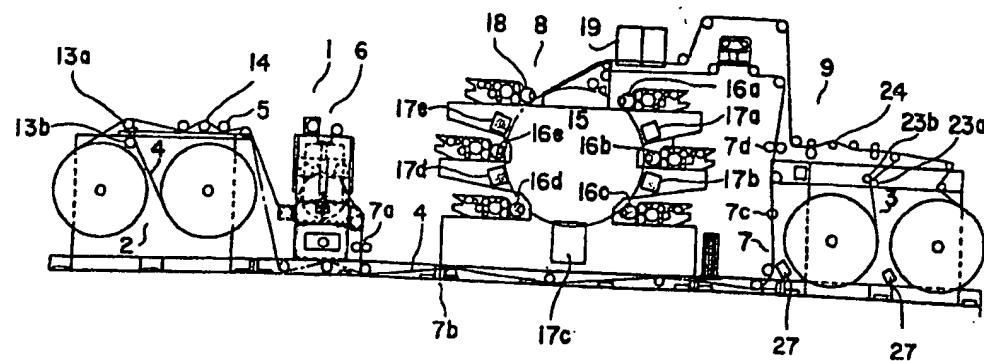
1. A method of printing on a multi-layer web comprising feeding a multi-layer web while applying a predetermined tensile force to the multi-layer web between a feeding roll and a winding roll; subjecting the multi-layer web to a corona discharge surface treatment on the feeding way; eliminating electric charge from said multi-layer web; and carrying out process printing by using printing plates of a letterpress method for said multi-layer web in a center drum printing machine, wherein immediately after one color printing for each color of said printing is completed, ultraviolet drying is carried out, and after said printing and drying are completed, varnishing and ultraviolet drying are applied to said multi-layer web.

2. A multi-layer web printing apparatus comprising a feeding roll for feeding a multi-layer web; a tensile force detector for detecting a tensile force acting on said multi-layer web; a corona discharge surface treatment device for subjecting said multi-layer web to a corona discharge surface treatment; an electrical charge eliminator for discharging electrical charge in a charged multi-layer web; a center drum printing machine having printing cylinders of a letterpress method for carrying out process printing in association with a center drum around which said multi-layer web is wound; a plurality of ultraviolet drying devices disposed to face said center drum on a periphery of said center drum and on respective exit sides of said printing cylinders for drying printing ink on a surface of said multi-layer web wound around said center drum; and a varnishing roll disposed on an exit side of the last of said printing cylinders for varnishing in association with said center drum in said center drum printing machine.

第1図 Fig. 1



第2図 Fig. 2



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